Appendix 2: Important Ecological Areas and Maps

Region A	**Ano Nuevo (Figure A)**

The Ano Nuevo region is well known for its large elephant seal and seabird colonies as well as its diverse intertidal and subtidal habitats. Ano Nuevo Point is surrounded by an extensive array of inshore and offshore rocky reefs and sand bottom habitats, with giant kelp and bull kelp. Adjacent federal waters contain a major submarine canyon. The area is contained within a major upwelling center and represents a major headland, which makes the southern area of the region ideal for retaining fish and invertebrate larvae. The entire area contains the highest 20% diversity and density of birds and fishes in California. The region contains two coastal marsh habitats. The terrestrial area of Ano Nuevo is a State Park, and the region is also adjacent to Big Basin State Park and Weddell Creek. The nearshore component of this region is currently designated as a "special closure" by DFG to protect invertebrates.

Sub-Area	**Ecological importance**	**Significant features**	**Anthropogenic Impacts**	**Objectives**
1) North Ano Nuevo	Relatively Important	• Rocky intertidal • Multiple rocky reefs • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect forage base for top predators • Protect seafloor and other biogenic habitat
2) West Ano Nuevo	Important	• Buffer to elephant seal rookery • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect forage base for top predators • Protect seafloor and other biogenic habitat

3) Point Ano Nuevo	Very Important	• Major elephant seal rookery • Seabird colony • Upwelling center • Nearshore hard substrate • High fish/bird diversity • Kelp	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Vessel disturbance • Depletion of forage base	• Protect seabird/mammal colonies from human disturbance • Protect seafloor and other biogenic habitat • Protect forage base for top predators • Protect benthic invertebrates and groundfish
4) South Ano Nuevo to El Jarro Point	Important	• Buffer to elephant seal rookery and seabird colony • Coastal marshes • Nearshore hard substrate • Seabird colony • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect forage base for top predators • Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat

Region B	Monterey Bay and Carmel Bay (Figures B and B-1)

The Monterey Bay and Carmel Bay region is an extraordinary marine area of global ecological significance. This region contains three of the five submarine canyons in the Central Coast study area. Monterey Canyon is the largest submarine canyon on the west coast of North America. This canyon is 470 km long, approximately 12 km wide at its widest point, and has a maximum rim to floor relief of 1700 m, making it much larger than Arizona's Grand Canyon. Carmel Canyon is one of the few canyons on the California Coast whose canyonhead reaches the shore at Monastery Beach. Soquel Canyon is an important area for several species of rockfish as well as pelagic species. These canyons contain by far the highest number and density of coral and sponge records in the Central Coast study area. The northern section of Monterey Bay contains extensive rocky reefs and diverse shoreline types. The area contains the only documented larval retention area off Soquel Point. The region contains one of two major estuaries in the Central Coast region, Elkhorn Slough, which contains a documented 102 species of fish, 559 species of invertebrates, and 255 bird species. This estuary contains extensive eelgrass and unique mudflat habitats and is a known nursery area for several fish and shark species. The Monterey Peninsula and Carmel Bay are surrounded by the most extensive complex of rocky substrate in deep and shallow waters, as well as shale beds that host unique species assemblages. Carmel Bay also includes numerous offshore pinnacles. Existing MPAs in this region include Point Lobos Marine Reserve, Carmel Bay SMCA, Pacific Grove SMCA, Hopkins SMR, and Elkhorn Slough SMR. There are also numerous state parks and state beaches adjacent to this area. Research institutions include Long Marine Laboratory, the Monterey Bay Aquarium Research Institute, Moss Landing Marine Laboratory, Hopkins Marine Station, and the Monterey Bay Aquarium.

Monterey Bay is one of the only areas within California state waters where the practice of bottom trawling is still allowed. According to the National Academy of Sciences (2002) bottom trawling reduces habitat complexity and biodiversity and is particularly damaging in areas with long-lived slow growing species like deep sea corals and sponges. In Monterey Bay, NOAA trawl surveys have documented gorgonian corals, sea pens and sponges. Submersible dives by MBARI have documented bubblegum corals, black corals, and bamboo corals. The California Academy of Sciences has collected samples of hydrocorals, *Plumerella sp*., *Callogorgia sp*., *Paragorgia sp*., and bamboo corals. In an area with such known concentrations of living seafloor habitat, the risk of destroying these important ecosystem features is far too great. Bottom trawling is not a compatible activity with the known habitat complexity and diversity of Monterey Bay.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
5) Natural Bridges	Very Important	• Rocky intertidal • Multiple rocky reefs • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff • Depletion of forage base	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect forage base for top predators • Improve water quality
6) Santa Cruz nearshore reefs	Important	• Rocky reefs • Kelp forests • High fish/bird diversity • San Lorenzo River freshwater plume	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect seafloor and other biogenic habitat • Improve water quality
7) Soquel Point	Very Important	• Known larval retention area • Rocky reef	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Improve water quality
8) Watsonville reefs	Important	• Rocky reefs • Freshwater plume from Pajaro River	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat

9) Monterey Canyon	Important	• Largest submarine canyon on west coast • Rocky bottom • High depth range • High fish/bird diversity • Corals and sponges	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish
10) Monterey canyonhead	Very Important	• Major canyonhead • Shark habitat • Adjacent to major estuary • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish
11) Monterey Bay shelf north	Relatively Important	• Soft bottom habitat • Pajaro River freshwater plume	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Coastal runoff • Depletion of forage base	• Improve water quality • Protect seafloor and other biogenic habitat
12) Soquel Canyon	Very Important	• Rockfish hotspot • Major canyonhead • Corals and sponges • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect forage base for top predators

13) Portuguese Reef	Very Important	• Rocky reef • Rockfish habitat • High fish/bird diversity	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Depletion of forage base	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect forage base for top predators
11b) Monterey Bay shelf south	Relatively Important	• Soft bottom habitat with isolated rocky outcrops • Adjacent to major canyons • Estuaries, and reef complexes • Salinas River freshwater plume	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Coastal runoff	• Improve water quality • Protect seafloor and other biogenic habitat
14) Pacific Grove/Monterey reefs	Important	• Shale beds • Rocky reefs at various depths • High fish/bird diversity • High density sea otter habitat	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect seafloor and other biogenic habitat
15) Hopkins Marine Life Refuge/ Ricketts	Very Important	• Rocky reef • Metridium fields • High fish diversity • High invertebrate diversity	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seabird/mammal colonies from human disturbance • Protect seafloor and other biogenic habitat • Protect forage base for top predators
16) Pebble Beach	Very Important	• Rocky reefs at various depths • Larval seeding area • Offshore rocky canyon • Pinnacles • Seabird colony • Kelp forest	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect forage base for top predators

		• high productivity • High fish/bird diversity • High density sea otter habitat	• Vessel disturbance • Depletion of forage base	
17) North Carmel Bay	Very Important	• Pinnacles • Corals and sponges • Kelp forest • Pinnacles • High fish/bird diversity • High density sea otter habitat	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff • Vessel disturbance • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seabird/mammal colonies from human disturbance • Protect seafloor and other biogenic habitat • Protect forage base for top predators
18) South Carmel Bay/Point Lobos	Very Important	• Major canyonhead reaches shore • Pinnacles • Seabird colonies, pinnacles • Coastal marsh and freshwater plume at Carmel River • High fish/bird diversity • High density sea otter habitat	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff • Vessel disturbance • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seabird/mammal colonies from human disturbance • Protect seafloor and other biogenic habitat • Protect forage base for top predators
19) Offshore Carmel Canyon	Important	• Deepwater canyonhead • Corals and sponges • Pinnacles • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect seafloor and other biogenic habitat

20) Elkhorn Slough	Very Important	• Only major estuary in region • High diversity • Fish and shark nursery • Eelgrass habitat • "Globally Important Bird Area"	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Coastal runoff	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Improve water quality

Region C	Point Sur (Figure C)

Point Sur is a major upwelling center in the Central Coast area. This region contains a major multi-species bird nesting colony at the Hurricane Point-Castle Rock complex. This complex contains the largest common murre colony on the mainland, a species that has recently declined in California. Big Sur Bank, one of the few major hard substrate offshore banks in California, reaches into the outer portion of state waters in this region. The offshore area also contains a rocky submarine canyonhead. The region contains an estuary and coastal marsh. The rocky reef off Point Sur extends roughly three miles offshore, making it the most extensive reef and kelp forest in this part of the Central Coast. The northern and central sections of the region contains the highest 20% of bird and fish density and diversity in California, while the southern sections provide ideal conditions for larval retention and foraging areas. The region is adjacent to Andrew Molera State Park and Pfeiffer State Park, though it contains no existing MPAs.

This complex of nearshore rocks and mainland cliffs hosts one of the most diverse assemblages of seabirds between the Farallon and Channel Islands, including Common Murre, Brandt's Cormorant, Pelagic Cormorant, Pigeon Guillemot, Cassin's Auklet, Western Gull and the rare Ashy Storm-Petrel. The Common Murre colony is the southernmost of the species. This murre colony declined by about 60% in the 1980s as a result of gill-net and oil spill mortality. Many efforts are being expended to protect and restore this colony to its former size. The colony has been increasing since the early 1990s, but is still well below where it was in the early 1980s. The colony is very sensitive to human disturbance. Close approach by boats has caused birds to flush off the rocks during the breeding season, and nests have been lost as a result. Forage fish important to the seabirds nesting on the rocks include rockfish, anchovies, sardines, and squid. This colony typically experiences lower breeding success than other central California colonies, and prey base may be a factor.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
21) Hurricane Point-Castle Rock Complex nearshore	Very Important	• Major seabird colony including common murres in decline • Nearshore rocky reefs • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Vessel disturbance • Depletion of forage base	• Protect seabird/mammal colonies from human disturbance • Protect seafloor and other biogenic habitat • Protect forage base for top predators

22) Hurricane Point-Castle Rock Complex offshore	Relatively Important	• Buffer for major seabird colony • Upwelling center • High fish/bird diversity	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Vessel disturbance • Depletion of forage base	• Protect forage base for top predators
23) Point Sur south to Pfeiffer State Beach	Very Important	• Major upwelling center • Rocky reef extending 3 miles offshore • Adjacent to major offshore reef • Extensive kelp forest • High fish/bird diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seabird/mammal colonies from human disturbance • Protect seafloor and other biogenic habitat • Protect forage base for top predators
24) South Point Sur offshore	Important	• Deepwater hard substrate habitat • Rocky canyonhead • High fish/bird diversity	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Vessel disturbance	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat

Region D	Partington (Figure D)

The Partington Region contains a complex array of large and small submarine canyons. This kind of array is found nowhere else on the California coast. These canyons are considered to be highly important habitat for rockfish. In fact, there are over 20 species of rockfish documented in this area, including several nearshore species. Two bird colonies are contained inside this area. The area also encompasses the leeward side of the major headland of Lopez Point, making it an ideal retention area for invertebrate and fish larvae. The area contains numerous rocky reefs, soft bottoms, and canyons over a wide depth range, making it ideal for capturing a diverse array of representative habitat types. Coralline and turf brown algae are abundant in this region, making it suitable for abalone recovery. In addition to the canyons and canyonheads, the subtidal habitats in the Partington region contain a diverse combination of sand, flat rock, low boulder, medium boulder, and pinnacles. The region contains Big Creek SMR and Julia Pfeiffer Burns SMCA and would expand the coverage of those areas to broader representation of habitat types, including deepwater habitats.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
25) Julia Pfeiffer Burns nearshore	Very Important	• Major rocky canyonhead • Kelp forest • High fish diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect forage base for top predators • Protect seafloor and other biogenic habitat
26) Julia Pfeiffer Burns offshore	Important	• Deep canyons, buffer to seabird colonies • High fish diversity	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Depletion of forage base	• Protect forage base for top predators • Protect seafloor and other biogenic habitat
27) Central Partington slot canyons	Relatively Important	• Seabird colonies • Canyonheads • Corals and sponges • High fish diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact	• Protect seafloor and other biogenic habitat

28) Big Creek	Very Important	• Rocky reefs • Several canyonheads • Coral and sponge • High fish diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat • Protect forage base for top predators
29) Gamboa Point area	Relatively Important	• Kelp forest • Canyonheads • Rocky reefs • High fish diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact	• Protect seafloor and other biogenic habitat
30) Lopez Point	Very Important	• Extensive kelp forest • Leeward of major headland • High fish diversity	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat

Region E	Cape San Martin (Figure E)

The Cape San Martin region contains diverse marine habitat and many ecologically significant features. The marine waters off Cape San Martin are an upwelling zone. The shelf break is located within 2 miles of shore; as such the region contains a high diversity of habitat as both deep slope and shallow shelf occur within the area. The head of Mill Creek submarine canyon extends into the area. Both shelf and nearshore hard bottom seafloor habitat are present. Persistent kelp beds occur in the nearshore and habitat-forming invertebrates such as sea pens and hexactinellid sponges have been recorded on the shelf and slope. Much of area contains high-suitability habitat for adult and juvenile overfished groundfish species. On the cliffs and offshore rocks are several major nesting seabird colonies including two large colonies of Brandt's cormorant and the second largest colony of western gulls in the Central Coast region. Also in the area are a rookery for northern elephant seals, haulouts for California sea lions and harbor seals, and high relative density of sea otters.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
31) Gorda	Important	• Shelf/slope break • Upwelling zone • Mill Creek Canyon head • Nesting seabirds • High density sea otter habitat • Habitat-forming invertebrates • Overfished groundfish habitat • Nearshore finfish habitat • Persistent kelp beds	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Coastal runoff	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat
32) Plaskett	Very Important	• Shelf/slope break • Upwelling zone • Major nesting seabird colonies • High density sea otter habitat • Northern elephant seal rookery • Habitat-forming invertebrates • Overfished groundfish habitat	• Commercial fishing • Recreational fishing • Kelp harvesting • Seafloor bottom contact • Vessel disturbance • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat • Protect seabird/mammal colonies from human disturbance • Protect forage base for top

		• Nearshore finfish habitat • Persistent kelp beds • Nearshore hard substrate • Shelf hard substrate		predators

Region F	Piedras Blancas (Figure F)

The Piedras Blancas region contains productive marine habitat that supports a diversity of marine life. The waters off Piedras Blancas are an upwelling zone. Persistent kelp beds provide habitat for juvenile rockfish, cabezon, and other kelp dwellers. The kelp beds and reefs leeward of Point Piedras Blancas likely function as larval retention areas. CDF&G noted that nearshore fisheries in the general region have been heavily utilized.

The Piedreas Blancas region contains crucial marine mammal and seabird habitat. Piedras Blancas Island is a nesting site for pigeon guillemonts, western gulls and thousands of Brandt's cormorants, making it the largest breeding colony outside of the Farallons. The island also serves as a nesting site for several rare rhinoceros auklets and was a historical nesting site for tufted puffins, both of which are state species of special concern. A large colony of Brandt's cormorant nest at La Cruz Rock, pelagic cormorants nest at 3 Rocks, and pigeon guillemonts nest at Point San Simeon. The region supports a high relative density of sea otters and many marine mammal haulouts. Northern elephant seals have established a rookery at Point Piedras Blancas.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
33) Ragged Point to San Simeon Point	Important	• Upwelling zone • Persistent kelp beds • Seabird colonies • Marine mammal haulouts	• Commercial fishing • Recreational fishing • Kelp harvesting • Depletion of forage base	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect forage base for top predators
34) Point Piedras Blancas	Very Important	• Upwelling zone • Northern elephant seal rookery • Major seabird colonies • Rhinoceros auklet nesting • High density sea otter habitat • Marine mammal haulouts • Overfished groundfish habitat • Nearshore finfish habitat • Persistent kelp beds	• Commercial fishing • Recreational fishing • Kelp harvesting • Vessel disturbance • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat • Protect seabirds/marine mammal colonies from human disturbance • Protect forage base for top predators

35) Offshore Piedras Blancas	Relatively Important	• Upwelling zone • Overfished groundfish habitat	• Commercial fishing • Recreational fishing	• Protect seafloor and other biogenic habitat • Protect forage base for top predators

Region G	Cambria (Figure G)

The Cambria region contains shelf and slope habitat and is an upwelling zone. Persistent kelp beds are abundant nearshore. The area contains habitat for all life stages of nearshore fishes. CDF&G notes that the region has been heavily utilized by commercial and recreational fisheries.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
36) Cambria North	Very Important	• Upwelling zone • Nearshore finfish habitat • Overfished groundfish habitat • Marine mammal haulouts • Persistent kelp beds	• Commercial fishing • Recreational fishing • Kelp harvesting • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat • Protect forage base for top predators
37) Cambria South	Important	• Upwelling zone • Nearshore finfish habitat • Overfished groundfish habitat • Persistent kelp beds	• Commercial fishing • Recreational fishing • Kelp harvesting	• Protect seafloor and other biogenic habitat

Region H	Atascadero to Morro Beach (Figure H)

The marine waters offshore of Atascadero Beach to Morro Beach are characterized by soft-bottom habitat of the continental shelf. The Morro Bay region contains a large, ecologically important estuary. The meeting of creeks, wetlands, salt marshes, mudflats, eelgrass, sand dunes and open water attracts a variety of seabirds, marine life, and other wildlife. Morro Bay contains most of the documented eelgrass beds in the Central Coast region, and eelgrass habitat is underrepresented in current state reserves. Eelgrass beds are important nursery areas for fish and invertebrates. The eelgrass of Morro Bay is a significant nursery for English sole and California halibut. Fish such as sculpin, sanddabs, leopard sharks, and halibut forage in the tidal flats. Morro Bay is located on the Pacific Flyway, and is an important stopover for migratory birds. Threatened steelhead trout spawn in Chorro and Los Osos creeks. Morro Estuary is a National Estuary Program site. The California water board designated Morro Bay as a high priority water body. The power plant in Morro Bay discharges thermal waste water into the estuary.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
38) Morro Bay	Very Important	• Estuary • Eelgrass • Nursery for fish and invertebrates • Nearshore fish and invertebrate habitat • Seabird and waterfowl staging area • Pismo clams, sand dollars, and other infauna • Threatened Steelhead • Sea otter foraging habitat	• Coastal Runoff • Power plant thermal discharge • Loss of habitat • Reduced freshwater flow • Accelerated sedimentation • Pollution	• Improve water quality • Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect forage base for top predators

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
39) Atascadero Beach	Important	• Nearshore fish and invertebrate habitat • Seabird staging area • Snowy Plover nesting • Pismo clams, sand dollars, and other infauna	• Coastal Runoff • Depletion of forage base	• Improve water quality • Protect forage base for top predators
40) Morro Beach	Important	• Nearshore fish and invertebrate habitat • Seabird staging area • Pismo clams, sand dollars, and other infauna • Snowy Plover nesting	• Coastal Runoff • Depletion of forage base	• Improve water quality • Protect forage base for top predators

Region I	Point Buchon to San Luis (Figure I)

Rocks in the region harbor a large complex of nesting seabirds including Brandt's cormorant, pelagic cormorant, western gull, and pigeon guillemont. The Diablo Canyon nuclear power plant is situated on this coast and discharges thermal waste water. Existing regulations have created a de-facto marine protected area in the immediate area of the plant. Long term datasets are available due to environmental monitoring of power plant; as such, good baseline information exists for comparative studies. A pinniped rookery is located on Pecho rock and eight haulouts are known in the region. Persistent kelp beds exist in the nearshore area and sea otters are abundant. Divers have noted rich benthic habitat with extensive coverage of hydrocorals and filter feeders.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
41) Point Buchon to San Luis	Important	• Rocky reefs • Offshore pinnacles • Seabird colony • Marine mammal haulouts • Persistent kelp • High density sea otter habitat	• Coastal Runoff • Risk of nuclear contamination • Commercial fishing • Recreational fishing	• Protect seafloor and other biogenic habitat • Improve water quality
42) Diablo	Very Important	• Major Seabird colony • Marine mammal rookery • Marine mammal haulouts • High density sea otter habitat • Existing protection at Diablo power plant	• Coastal runoff • Risk of nuclear contamination • Power plant thermal discharge • Commercial Fishing • Recreational Fishing	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect seabirds/marine mammal colonies from human disturbance • Protect forage base for top predators • Improve water quality

Region J	Oceano to Point Sal (Figure J)

This region contains a shallow sandy shelf which is an important foraging area for seabirds. The area attracts tens of thousands of sooty shearwaters, which have declined in California. A freshwater plume and estuary from the Santa Maria River empties into the area. Rocky reef habitat is located off Point Sal. Santa Lucia Bank causes upwelling of nutrient rich waters that contribute to the productivity of the region. The waters offshore of Point Sal contain a high diversity of fish species documented from NOAA trawl surveys. Point Sal also has a nesting colony of pigeon guillemonts and rhinoceros auklets (a state species of special concern) and is an important pinniped haulout.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
43) Oceano Beach	Relatively Important	• Nearshore fish and invertebrate habitat • Estuary • Freshwater plume • Seabird staging area	• Coastal runoff	• Improve water quality
44) Point Sal	Very Important	• Nearshore hard substrate • Shelf hard substrate • Seabird colony • Pinniped haulout	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Vessel disturbance	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish

Region K	Purisima Point (Figure K)

Purisima point is of great ecological value as the transition point between the biota of central and southern California. The region is characterized by wide shallow shelf habitat with extensive nearshore and shelf hard substrate seafloor. The area contains one of the few areas of reef and kelp habitat within 50 miles. CDF&G notes that the reefs harbor a somewhat distinct assemblage of species. A freshwater plume and estuary of the Santa Ynez River empties into the ocean south of the point. Least terns and pigeon guillemonts nest in the area.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Objectives
45) Purisima Point north	Very Important	• Nearshore hard substrate • Shelf hard substrate • Seabird colony	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Vessel disturbance • Depletion of forage base	• Protect seafloor and other biogenic habitat • Protect benthic invertebrates and groundfish • Protect forage base for top predators
46) Purisima Point south	Very Important	• Nearshore hard substrate • Shelf hard substrate • Seabird colony • Estuary • Freshwater plume	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Coastal runoff • Vessel disturbance • Depletion of forage base	• Protect seafloor and other biogenic habitat • Protect forage base for top predators • Protect benthic invertebrates and groundfish • Improve water quality
47) Offshore Purisima	Relatively Important	• Ecotone between hard substrate and soft bottom habitat	• Commercial fishing • Recreational fishing • Seafloor bottom contact	• Protect seafloor and other biogenic habitat

Region L	Point Arguello to Point Conception (Figure L)

The region from Point Arguello to Point Conception is a region of rich biological diversity caused by the meeting of the cold California Current and warmer waters of Santa Barbara Channel. The area is a biogeographic transition zone. Point Arguello has one of the largest colonies of pigeon guillemonts in California and is a nesting site for rhinoceros auklets, a state species of special concern. The waters offshore are an important foraging area for thousands of sooty shearwaters, which have declined in recent years. Northern Elephant seals have established a rookery in the area. Vandenberg Military base is located in the area, and restrictions have created a de-facto marine reserve. Nearshore and shelf rocky reefs are home to invertebrates such as red and black abalone, lingcod, and black, blue, brown, copper, olive and vermillion rockfish.

Sub-Area	Ecological importance	Significant features	Anthropogenic Impacts	Measures
48) Point Arguello	Very Important	• Upwelling zone • Nearshore hard substrate • Shelf hard substrate • Major seabird nesting colony • High density sea otter habitat • Existing protection from Vandenberg Base	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Vessel disturbance • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat • Protect seabirds and marine mammal colonies from human disturbance • Protect forage base for top predators
49) Offshore Point Arguello	Relatively Important	• Upwelling zone	• Commercial fishing • Recreational fishing • Depletion of forage base	• Protect forage base for top predators

50) Espada Bluff	Important	• Upwelling zone • Nearshore hard substrate • Shelf hard substrate • High density sea otter habitat • Persistent kelp	• Commercial fishing • Recreational fishing • Kelp harvesting	• Protect benthic invertebrates and grounfish • Protect seafloor and other biogenic habitat • Protect forage base for top predators
51) Point Conception	Very Important	• Upwelling zone • Nearshore hard substrate • Shelf hard substrate • High density sea otter habitat • Marine mammal rookery	• Commercial fishing • Recreational fishing • Seafloor bottom contact • Vessel disturbance • Depletion of forage base	• Protect benthic invertebrates and groundfish • Protect seafloor and other biogenic habitat • Protect seabird and marine mammal colonies from human disturbance • Protect forage base for top predators

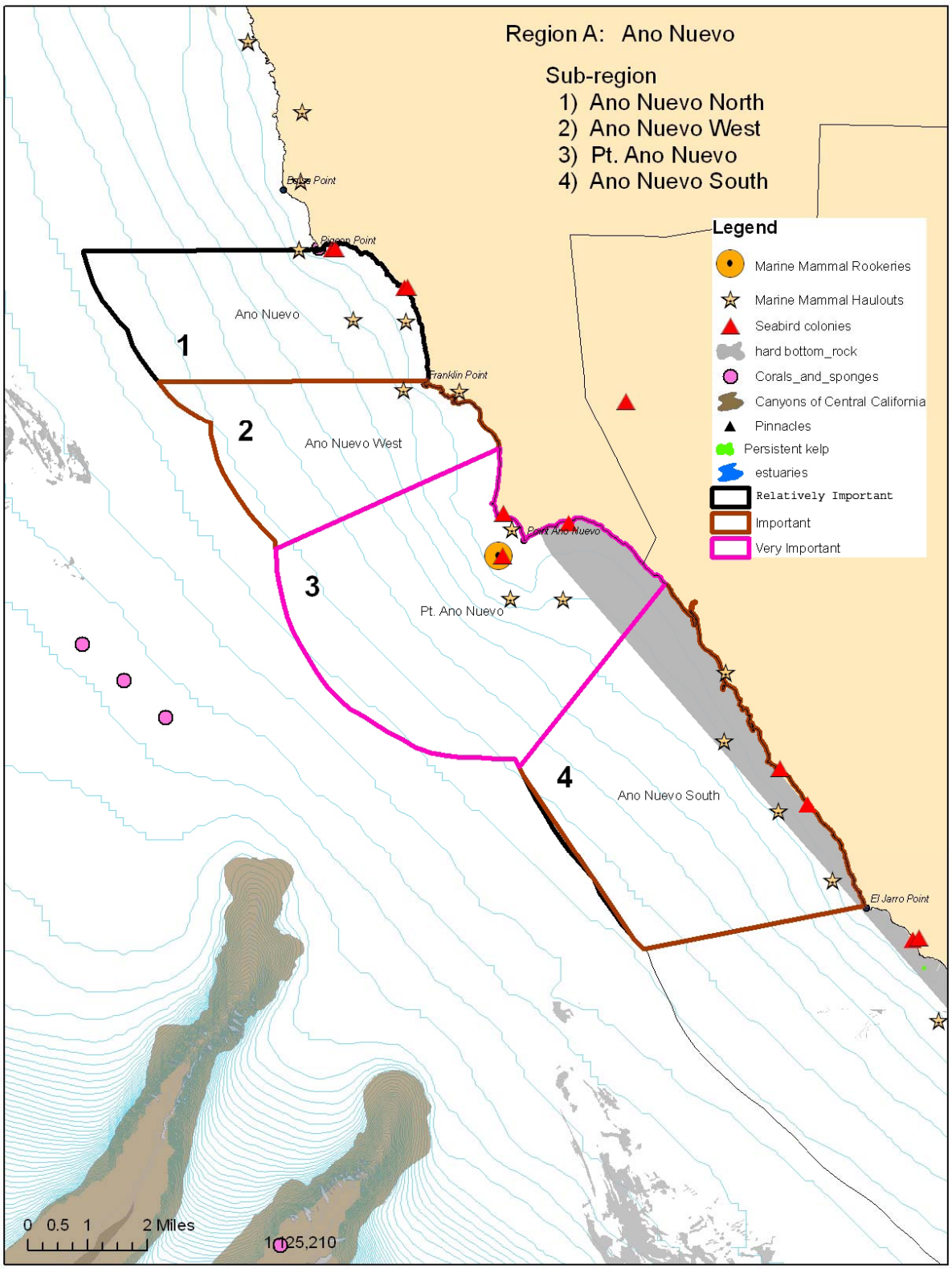

Figure A: Ano Nuevo Region